REMARKS

Claims 1-26 remain pending. Claims 1-26 stand rejected under 35 U.S.C. 102(a) and 35 U.S.C. 103(a).

Claims 1, 9, 10, 21, and 22 have been amended. Claims 1-26 remain pending upon entry of this amendment.

1. Claim Rejections under 35 U.S.C. § 102(a)

The Examiner has rejected claims 1-3, 5-6, 9-11, 17-21, and 23 under 35 U.S.C. §102(a) as allegedly being anticipated by Wilson-Jones et al. (U.S. Pat. No. 6,330,140). Applicants respectfully traverse.

The Examiner alleges that Wilson Jones teaches a method of protecting multiple feeder circuits from a shared electrical distribution system in an electric motor (see fig. 2) comprising a bypass line (29), the bypass line being configured to bypass separable contacts(16) in each of the feeder circuits (drive stage 2) between a load side and a line side of the distribution system. The Examiner alleges that the bypass switches (transistors 4, 5, 6, see col. 2, lines 60-62) in the bypass line are configured to couple each of the feeder circuits in the bypass line and that a fault lockout protection controller coupled to the bypass line detects the existence of a fault condition on the load side before closing the contacts.

More specifically, Wilson-Jones teaches a method of "testing the drive stage 2 for short circuits and other faults at the start of operation of the system before the contact 16 is closed. The circuit shown in FIG. 2 differs from that shown in FIG. 1 in that a resistor 30 is connected in parallel with the relay contact 16 so as to supply reduced current to the output stage 2 during initial diagnostic tests. Such tests are made when the system has been activated before the start of a journey but before the relay contact 16 has been closed. It is also possible for the tests to be performed at the end of the journey and the results stored in non- volatile memory." Col. 4, lines 6-14. Furthermore, Wilson-Jones teaches that the drive stage 2 comprises "top" power devices 4, 5 and 6 and "bottom" power devices 7, 8 and 9 are arranged as a three- phase bridge drive circuit with outputs 10, 11 and 12 connected to the three-phase inputs of the motor 1. Col. 2, lines 57-60.

Moreover, Wilson-Jones teaches that the drive stage 2 is connected via a contact 16 of an electromagnetic coil 17 connected to an output of the MCU 3. Col. 2, line 66- Col. 3, line 2. However, Wilson-Jones is absent any teaching or suggestion of corresponding separable contacts in each of the alleged feeder circuits and selectively coupling therewith.

Wilson-Jones does not teach or suggest a method of protecting multiple feeder circuits fed from a shared electrical distribution system, comprising: providing a bypass line, said bypass line being configured to bypass **corresponding** separable circuit breaker contacts in each of a plurality of feeder circuits between a load side and a line side of the electrical distribution system; providing bypass switches in said bypass line, said bypass switches being configured to selectively couple each of the feeder circuits **one at a time** to said bypass line; providing a fault lockout protection controller coupled to said bypass line; controlling said fault lockout protection controller to detect the existence of a fault condition on said load side of the feeder circuit selectively coupled to said bypass line prior to closing said **corresponding** separable circuit breaker contacts of the **selectively coupled** feeder circuit; and controlling said fault lockout protection controller to prevent closure of said **corresponding** separable circuit breaker contacts upon detection of said fault condition, as in claim 1, and similarly claimed in claims 9 and 21. Thus claims 1, 9 and 21, including claims depending therefrom, i.e., claims 2-8, 10-16, and 22-26, define over Wilson-Jones.

With respect to claim 17, the Examiner alleges that Wilson-Jones discloses a circuit breaker (see fig. 2) comprising an over-center toggle mechanism (controlling an open position and a closed position of the contacts 16) and that the separable contacts connect and disconnect a load side to a line side. The Examiner further alleges that a fault lockout protection controller detects the existence of the fault condition on the load side before closing the contacts. Applicants respectfully traverse.

Wilson-Jones teaches a three-phase star-connected brushless permanent magnet motor 1 is connected via a geared drive to a steering column or rack of a vehicle steering system (not shown). The torque applied by a vehicle driver, for instance to a steering wheel, is measured and used to control the current supplied to the motor 1 so as to assist

the steering of the vehicle. Col. 2, lines 45-50. As described above, the drive stage 2 of motor 1 is connected via a contact 16 of an electromagnetic coil 17 connected to an output of the MCU 3. Col. 2, line 66- Col. 3, line 2. If a fault is diagnosed (including a short circuit), the motor is isolated by turning off the power devices 4 to 9 and removing power from the coil 17 of the relay so as to open the contact 16. Power assistance is therefore disabled so as to protect the vehicle and driver against undesired assistance torques. Col. 3, lines 47-50. Wilson-Jones further teaches that the coil 17 is not energized to closed contact 16 if a fault is detected at the start of operation of the system before contact 16 is closed. See Col. 4, lines, 5-14. Thus, Wilson-Jones teaches electrical energy to energize coil 17 to close contact 16 and removing electrical power from coil 17 of the relay so as to open the contact 16. Col. 3, lines 48-49. It is respectfully submitted that the Examiner has improperly characterized the electromagnetic relay 17 in operable communication with contact 16 with a circuit breaker having an over-center toggle mechanism being configured to move between an open position and a closed position, as it is well understood in the art and identified on at least page 22 of the specification and described with reference to U.S. Patent No. 4,754,247, for example.

Wilson-Jones does not teach or suggest ***a circuit breaker***, comprising: ***an over-center toggle mechanism***, said over-center toggle mechanism being configured to move between an open position and a closed position; ***separable breaker contacts movable by said over-center toggle mechanism*** between said open position and said closed position, said separable breaker contacts being configured to connect a load side to a line side of an electrical distribution system in said closed position and to disconnect said load side from said line side in said open position; a fault lockout protection controller, said fault lockout protection controller being configured to detect the existence of a fault condition on said load side, and including means for preventing closure of said separable breaker contacts upon detection of said fault condition, as in claim 17. Thus claim 17, including claims depending therefrom, i.e., claims 18-20, define over Wilson-Jones.

2. Claim Rejections under 35 U.S.C. § 103(a)

a. The Examiner has rejected claims 4, 7, 8, 12, 13, 15, 16, and 24-26 under 35 U.S.C. §103(a) as allegedly being unpatentable over Wilson-Jones et al. in view of Gibbs (U.S. Pat. No. 6,208,120). More specifically, the Examiner alleges that regarding claims 4, 12, and 24, Gibbs discloses a circuit breaker (see fig. 1) having a silicon-controlled rectifier (12). The Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Wilson-Jones with a silicon controlled rectifier as taught by Gibbs in order to monitor current and voltage within desired values.

It is respectfully noted that claims 4, 12, and 24 are allowable as depending from allowable independent claims 1, 9, and 21, respectively, for defining over Wilson-Jones et al. Furthermore, it is respectfully noted that the use of the silicon controlled rectifier of Gibbs does not cure the deficiencies with respect to Wilson-Jones et al.

Regarding claims 7, 13, 16, and 25, the Examiner alleges that Gibbs discloses the protection of the circuit breaker comprises a current transformer (82) about the bypass line (42) for sensing the current in the line. It is respectfully noted that claims 7, 13, 16, and 25 are allowable as variously depending from allowable independent claims 1, 9, and 21, for defining over Wilson-Jones et al. Furthermore, it is respectfully noted that the use of the current transformer (82) about the bypass line (42) for sensing the current in the line allegedly taught in Gibbs does not cure the deficiencies with respect to Wilson-Jones et al.

Regarding claims 8, 15, and 26, the Examiner alleges that Gibbs discloses the protection of the circuit breaker includes a generator connected to a voltage transformer (84) to generate a voltage signal to the load side. It is respectfully noted that claims 8, 15, and 26 are allowable as variously depending from allowable independent claims 9 and 21, for defining over Wilson-Jones et al. Furthermore, it is respectfully noted that the use of the generator connected to a voltage transformer (84) allegedly taught in Gibbs does not cure the deficiencies with respect to Wilson-Jones et al.

b. The Examiner has rejected claim 14 under 35 U.S.C. §103(a) as allegedly being unpatentable over Wilson-Jones et al. in view of Lee (U.S. Pat. No. 4,924,342). Specifically, the Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Wilson-Jones with a silicon controlled rectifier including the impedance device (resistor 16) as taught by Lee in order to protect against a short circuit occurring in the load. The Examiner's rejection of claim 14 under 35 under 35 U.S.C. 103(a) as being unpatentable over Wilson-Jones in view of Lee is hereinafter traversed and reconsideration requested because, as described hereinabove, claim14 is submitted as being allowable as being dependent from allowable independent claim 9. Furthermore, it is respectfully noted that use of the impedance device of Lee as suggested by the Examiner does not cure the deficiencies with respect to Wilson-Jones et al. Accordingly, Applicants respectfully request that the rejection be withdrawn.

c. The Examiner has rejected claims 19 and 22 under 35 U.S.C. §103(a) as allegedly being unpatentable over Wilson-Jones et al. in view of Purkayastha (U.S. Pat. No. 5,657,193). Specifically, the Examiner alleges that Wilson-Jones discloses all of the limitations of claims 17 and 21 except for having means for preventing the closure of the contacts selected from the group of an under voltage protection module and a blocking solenoid module. The Examiner alleges that Purkayastha discloses the protection of the circuit breaker including a means for preventing the closure of the contacts (12) selected from the group of an under voltage protection module (ECM 13) and a blocking solenoid module (45). The Examiner concludes that it would have been obvious to one having skill in the art at the time the invention was made to modify the system of Wilson-Jones with the ECM and the solenoid module to prevent the closure of the contacts as taught by Purkayastha in order to interrupt the circuit upon the occurrence of over-current. The Examiner's rejection of claims 19 and 22 under 35 under 35 U.S.C. 103(a) as being unpatentable over Wilson-Jones in view of Purkayastha is hereinafter traversed and reconsideration requested because, as described hereinabove, claims 19 and 22 are submitted as being allowable as being dependent from allowable independent claims, i.e., claims 17 and 21. Furthermore,

it is respectfully noted that use of the ECM and the solenoid module of Purkayastha as suggested by the Examiner does not cure the deficiencies with respect to Wilson-Jones et al. Accordingly, Applicants respectfully request that the rejection be withdrawn.

3. Conclusion

It is believed that the foregoing remarks fully comply with the Office Action and that claims 1-26 are allowable. Accordingly, reconsideration and allowance is requested. The Examiner is cordially invited to contact the undersigned by telephone to expedite the allowance of this application.

If there are any charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,

MORRIS ET AL.

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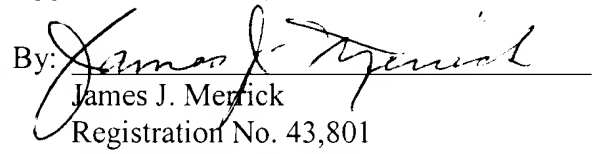
By: 
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Version to show changes made:

IN THE CLAIMS:

1. (amended) A method of protecting multiple feeder circuits fed from a shared electrical distribution system, comprising:

providing a bypass line, said bypass line being configured to bypass corresponding separable circuit breaker contacts in each of a plurality of~~the~~ feeder circuits between a load side and a line side of the electrical distribution system;

providing bypass switches in said bypass line, said bypass switches being configured to selectively couple each of the feeder circuits one at a time to said bypass line;

providing a fault lockout protection controller coupled to said bypass line;

controlling said fault lockout protection controller to detect the existence of a fault condition on said load side of the feeder circuit selectively coupled to said bypass line prior to closing said corresponding separable circuit breaker contacts of the selectively coupled feeder circuit; and

controlling said fault lockout protection controller to prevent closure of ~~the~~ said corresponding separable circuit breaker contacts upon detection of said fault condition.

9. (amended) An electric motor control center, comprising

a plurality of electric motors;

a motor starter for each electric motor of said plurality of electric motors, said plurality of electric motors being electrically connectable to a common electrical distribution system by a correspondingsaid motor starters;

a bypass line, said bypass line being configured to bypass each said motor starters between a load side and a line side of said common electrical distribution system;

bypass switches in said bypass line, each of said bypass switches being configured to selectively couple said each ~~of said~~ electric motors one at a time to said bypass line;

a logic sequence controller, said logic sequence controller being configured to selectively control opening and closing each of said motor starters and said bypass switches; and

a fault lockout protection controller coupled to said bypass line, said fault lockout protection being configured to selectively detect the existence of a fault condition on said load side at said each ~~of said~~ electric motors prior to closing said corresponding motor starters, and to selectively prevent closure of each said corresponding motor starter for each of said plurality of electric motors upon detection of said fault condition.

10. (amended) The electric motor control center of claim 9, wherein said fault lockout protection controller detects said fault condition when selectively coupled to a correspondingsaid electric motors by said logic sequence controller closing ~~said~~ a corresponding bypass switch.

21. (amended) A method of protecting a feeder circuit, comprising:

blocking corresponding separable contacts of each feeder circuit of a plurality of feeder circuits in an electrical distribution system from closing;

initiating a fault detection sequence in a fault lockout protection controller, said fault lockout protection controller being configured to detect the existence of a fault condition on a load side of each of said corresponding separable contacts;

maintaining~~leaving~~ said corresponding separable contacts blocked from closing upon detection that said fault condition is present; and

unblocking said corresponding separable contacts from closing upon detection that said fault condition is not present.

22. (amended) The method of claim 21, wherein said blocking corresponding separable contacts of said each feeder circuit of said plurality of feeder circuits in said electrical distribution system from closing comprises:

providing means for preventing closure of said corresponding separable breaker contacts selected from the group consisting of an under voltage protection module and a blocking solenoid module.